

and principal source of drinking water. A total of 45 people underwent skin exams by four different physicians. Six were found to have definite arsenic-induced skin effects, including 4 men with over 20 years of exposure to arsenic, 1 boy, and 1 girl. These prevalences are similar to those reported in studies in Taiwan and West Bengal. Furthermore, despite evidence from those studies that malnutrition might increase susceptibility to the effects of arsenic, the people of Chiu Chiu eat a wide range of fruits and vegetables and, on the average, consume red meat and chicken at least once a week. Women fared better, however, with no incidences of skin effects, for reasons still unknown.

The authors conclude that arsenic-induced skin effects persist among the Atacameño despite good nutrition and thousands of years of potential exposure. They recommend providing low-arsenic water to this population and note that as an interim solution the people of Chiu Chiu are now receiving water from the town of Calama, where the arsenic concentration has been lowered through treatment to 45 µg/L. —Julian Josephson

Assessing Risk in Russia Room for Improvement

It's widely recognized that there has been an alarming deterioration in Russia's adult survival: in 1993–1994 the average life expectancy of a Russian male was only 57.7 years. Many factors including the country's widespread environmental pollution may have led to this state. In a report in this month's issue, Jouni J. K. Jaakkola and colleagues examine how the Russian Federation is addressing the challenge of determining the causes of adverse environmental health effects through the compilation and use of information on the environment and human health. They conclude that the extensive collection of such information offers great opportunity, but the uneven quality of the collected data limits their value when used to develop environmental policy that would improve public health [EHP 108:589–594].

The report's international group of authors are from the Harvard School of Public Health, the Johns Hopkins School of Hygiene and Public Health, the National Institute of Hygiene in Warsaw, Poland, and the Environmental Epidemiology Component of the Environmental Management Project at the Center for Preparation and Implementation for Foreign Projects in Moscow, Russia, which was initiated by the Russian government in 1995 to help improve environmental conditions and associated human health. The Environmental Management Project has been charged in part with establishing systems for the transfer of information to environmental policy makers—in other words, to figure out how to let policy makers know what and where the real environmental problems are. The authors argue, however, that the information systems should be developed further in order to better serve the policy makers.

In 1996–1997, the authors tracked the flow of health- and environment-related information from the local level, where it is routinely collected from clinics and hospitals, up to the regional level, and finally to agencies in the federal government that are responsible for environmental health (particularly water, food, and air quality) and monitoring and enforcement (particularly of emissions from industry). Reports based on the data are then funneled back to regional and local decision makers for use in planning and policy.

Russia's centralized health care services and the hierarchy of its data collection are among the system's strengths. Local health care personnel are required by law to collect such generic health information as births and mortality and morbidity rates. In the industrial city of Cherepovets, for example, the authors found that the maternal and

child health surveillance system is so highly organized that the resulting computerized database can be used for studying the effects of environmental factors during pregnancy. However, the information is ultimately incomplete—malformations are not clearly characterized, major diagnostic groups and criteria are not formally described, and perinatal disease is not considered. The data also lack environmental factors that might affect birth outcome and perinatal health such as the size and nature of the family's residence, sources of indoor air pollution, and information on parental smoking and alcohol consumption. In addition, the data are presented to regional and federal offices in aggregate form, making it difficult to link environmental factors with specific health outcomes.

Among numerous recommendations, the authors urge that new kinds of information be collected and combined with routine data to help better assess the influence of environmental exposures on disease. In the long run, this emphasis on data quality and completeness should lead to improved decisions at the local, regional, and federal policy level. —Rebecca Clay



Data block. Although extensive amounts of data exist on environmentally related health conditions in Russia, the uneven quality and format of the data preclude their being used to make sound public health decisions.